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SECRET

7 1065

NPIC/TSSG/DED-1499-69
11 February 1969

MEMORANDUM FOR: Engineering Support Division, TSSG

ATTENTION: [redacted] 25X1

SUBJECT: Request for Support

1. The Electronic Research Laboratory of the Corning Glass Works is presently under contract to produce an Improved Rear Projection Screen Material. A number of sample screens have been produced and their characteristics measured. Although these measurements, in most cases, exceed those of the best commercially available rear projection screen material, a meaningful aid in evaluating the samples is considered to be subjective testing. A suitable subjective test routine is being designed by the Aerospace Group of The Boeing Company under the Imagery Exploitation Research Program.

2. Basically, the subjective testing will consist of random comparison of pairs of 12 1/8" X 15 1/8" X $\frac{1}{4}$" sample screens as well as comparison of each of these sample screens with a Polacoat Type B-781 screen. In addition, subjective evaluation of the resolution characteristics of the sample screens and the Polacoat Type B-781 screen will be made.

3. Present plans call for starting these tests on 1 April 1969. Approximately 100 hours of testing, not necessarily consecutive, will be required. The proposed test vehicle is the [redacted] Dual Screen Measuring Projector located in the Photogrammetry Division Space of IEG. Boeing personnel will conduct these tests. 25X1

4. TSSG/ESD is requested to furnish the following specific support for these tests.

a. Manufacture two (2) holding frames to support the 12 1/8" X 15 1/8" X $\frac{1}{4}$" sample screens for the tests described in paragraph two (2) above. Attached sketches #1 and #2 show recommended holding frames.

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GROUP 1
Excluded from automatic downgrading and declassification

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SUBJECT: Request for Support

b. Remove and replace the high power (12 1/8" X 15 1/8" X 1/4") screen and the low power (41 3/8" X 41 3/8" X 1/4") screen supplied with the [redacted] Projector, at the beginning and end of the tests, as well as on emergency demand by IEG/PHD during the tests (to satisfy operational requirements for use of the projector). 25X1

c. Advise the personnel conducting the tests relative to adequate and safe storage of the low power (41 3/8" X 41 3/8" X 1/4") Polacoat screen when it is not mounted in the projector. The high power (12 1/8" X 15 1/8" X 1/4") Polacoat screen will be used in the tests.

5. The TSSG/DED Project Officer for these tests [redacted] 25X1
[redacted] 25X1

6. For information, coordination with IEG/PHD for use of the [redacted] 25X1
Projector has been conducted with [redacted] 25X1
[redacted] 25X1

[redacted] 25X1

Acting Chief
Development & Engineering Division, TSSG

Attachments:
2 copies Sketches #1 and #2

Distribution:
Original - Addressee
3 - NPIC/TSSG/DED

NPIC/TSSG/DED/R&DBr-I [redacted] (11 FEB 69) (997065) 25X1

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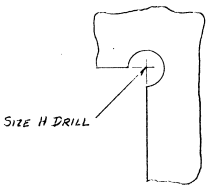
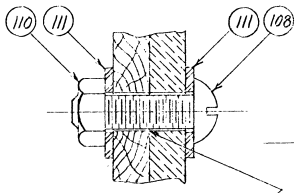
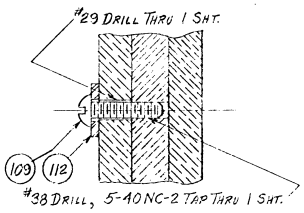


DETAIL #1



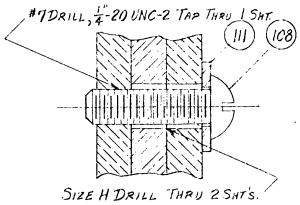
SIZE H DRILL THRU 2 SHT's.

DETAIL #2



#38 DRILL, 5-40 NC-2 TAP THRU 1 SHT.

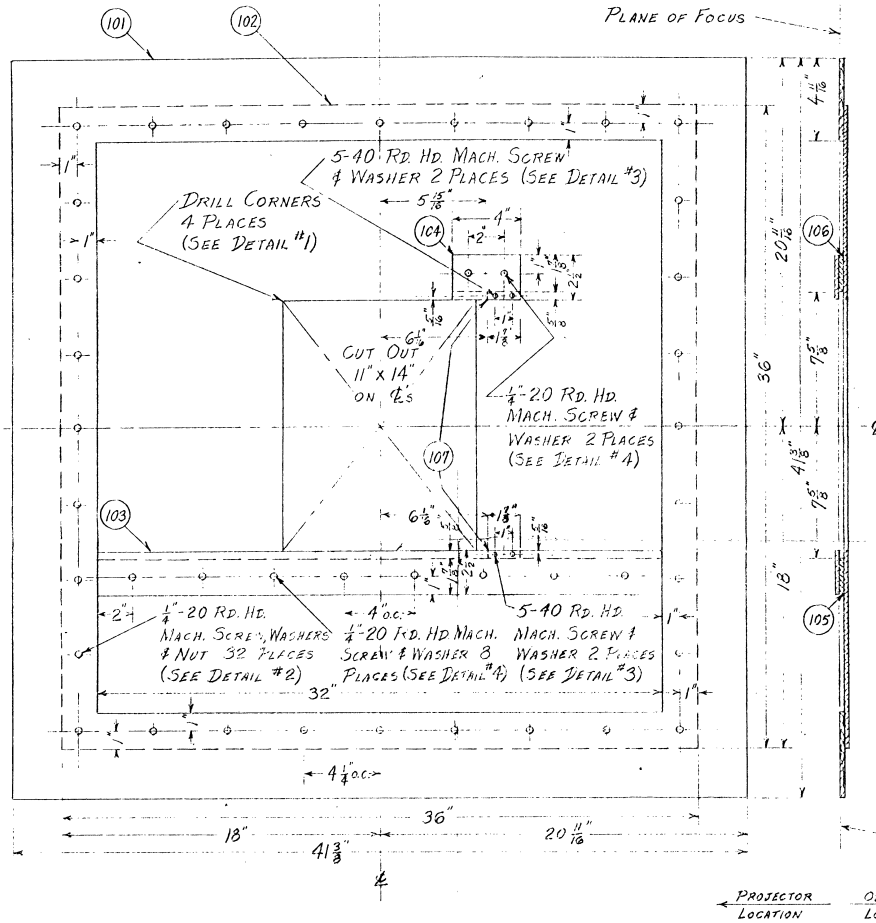
DETAIL #3



SIZE H DRILL THRU 2 SHT's.

DETAIL #4

PROJECTOR LOCATION — OBSERVER LOCATION


101
102
PLANE OF FOCUS
5-40 RD. HD. MACH. SCREW & WASHER 2 PLACES (SEE DETAIL #3)
DRILL CORNERS 4 PLACES (SEE DETAIL #1)
5 15/16"
4"
104
106
CUT OUT 11" x 14" ON ℄'s
1/4"-20 RD. HD. MACH. SCREW & WASHER 2 PLACES (SEE DETAIL #4)
107
103
105
1/4"-20 RD. HD. MACH. SCREW, WASHERS & NUT 32 PLACES (SEE DETAIL #2)
4" o.c.
1/4"-20 RD. HD MACH. SCREW & WASHER 8 PLACES (SEE DETAIL #4)
5-40 RD. HD. MACH. SCREW & WASHER 2 PLACES (SEE DETAIL #3)
32"
4 1/4" o.c.
36"
18"
41 3/8"
20 11/16"
PLANE OF FOCUS
PROJECTOR LOCATION
OBSERVER LOCATION

BILL OF MATERIAL

Pc.	NAME	QTY.	MAT.
101	FRAME	1	1/4" GRADE A/C PLYWOOD
102	AUX. SCREEN	1	1/4" CLEAR PLEXIGLASS
103	RETAINER	1	"
104	RETAINER	1	"
105	RAIL	1	"
106	RAIL	1	"
107	STOP	2	"
108	1/4 x 3/8 RD. HD. MA. SC.	42	CAD. PLATE STEEL
109	5-40 x 1/2 RD. HD. MA. SC.	4	"
110	1/4" STD. HEX. MA. SCREW	32	"
111	1/4 x 7/16 THK. STD. WASH	74	"
112	#6 x 3/4 T.H. STD. WASH	4	"

NOTES-
#1 - SAND EDGES OF ALL PIECES SMOOTH.
#2 - CHAMFER ALL CORNERS AND EDGES BY LIGHT SANDING.
#3 - AFTER MACHINING AND PRIOR TO ASSEMBLING, PAINT FRAME WITH TWO COATS OF FLAT BLACK PAINT.
#4 - LAYOUT AND MACHINE ALL PLEXIGLASS WITH PROTECTIVE COVERING IN PLACE ON BOTH SIDES.
△ #5 - AFTER MACHINING AND PRIOR TO ASSEMBLING, SAND PROJECTOR-SIDE OF AUX. SCREEN TO SIMULATE GROUND GLASS LIKE SURFACE.
#6 - ASSEMBLE WITH GRADE "A" SURFACE OF PLYWOOD FRAME TOWARD OBSERVER.

File Copy

REAR PROJECTION SCREEN
TEST ASSEMBLY
1 REQUIRED

△ USE P-80 COLORLESS PLEXIGLASS FOR PC. 102. DELETE NOTE #5. 2/28/69 [illegible]

UNLESS OTHERWISE SPECIFIED TOLERANCE = ± 1/64

PROJECT NO. 99706-5	
NAME OF UNIT IMPROVED REAR PROJECTION SCREEN	
NAME OF PIECE REAR PROJECTION SCREEN TEST ASSEMBLY	
SCALE 1/4 SIZE (DETAILS 2x SIZE)	DATE 18 FEB 1969
	DRAWING NO C-2

25X1

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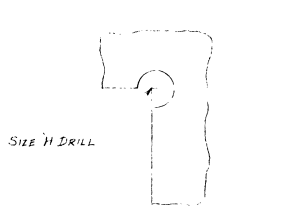
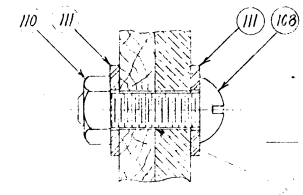
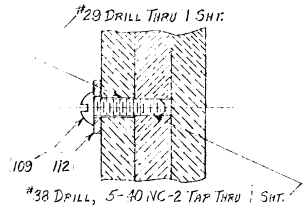


DETAIL #1

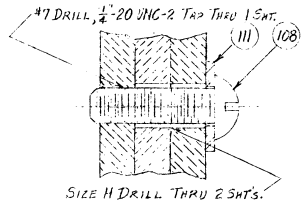


SIZE H DRILL THRU 2 SHT's.

DETAIL #2



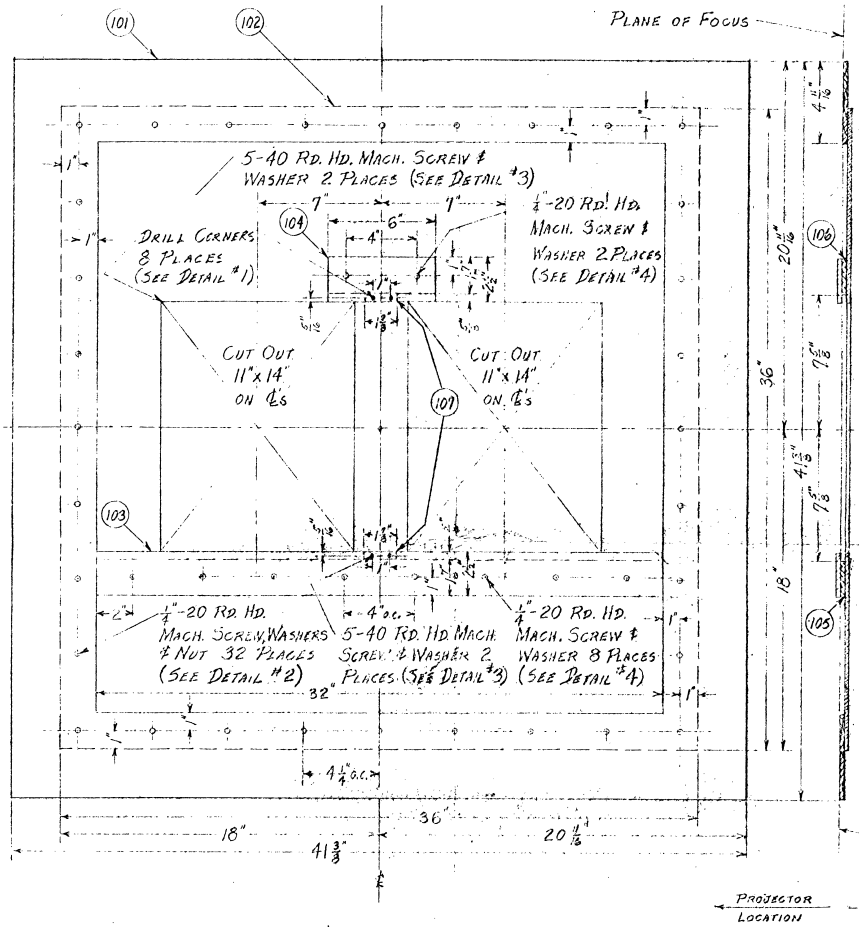
DETAIL #3



SIZE H DRILL THRU 2 SHT's.

DETAIL #4

PROJECTOR LOCATION — OBSERVER LOCATION


101
102
PLANE OF FOCUS
5-40 RD. HD. MACH. SCREW & WASHER 2 PLACES (SEE DETAIL #3)
1/4"-20 RD. HD. MACH. SCREW & WASHER 2 PLACES (SEE DETAIL #4)
DRILL CORNERS 8 PLACES (SEE DETAIL #1)
104
106
CUT OUT 11"x14" ON ℄'s
CUT OUT 11"x14" ON ℄'s
107
103
105
1/4"-20 RD. HD. MACH. SCREW, WASHERS & NUT 32 PLACES (SEE DETAIL #2)
4" o.c.
5-40 RD. HD. MACH. SCREW & WASHER 2 PLACES (SEE DETAIL #3)
1/4"-20 RD. HD. MACH. SCREW & WASHER 8 PLACES (SEE DETAIL #4)
32"
4 1/4" o.c.
36"
18"
41 3/8"
20 1/8"
PLANE OF FOCUS

PROJECTOR LOCATION — OBSERVER LOCATION

REAR PROJECTION SCREEN TEST ASSEMBLY
1 REQUIRED

UNLESS OTHERWISE SPECIFIED TOLERANCE = ±1/64

BILL OF MATERIAL

Pc.	NAME	QTY.	MAT.
101	FRAME	1	3/4" GRADE A-C PLYWOOD
102	AUX. SCREEN	1	1/8" CLEAR PLEXIGLASS (A)
103	RETAINER	1	"
104	RETAINER	1	"
105	RAIL	1	"
106	RAIL	1	"
107	STOP	2	"
108	1/4"-20 x 3/8" RD. HD. MA. SC.	42	CAD. PLATE STEEL
109	5-40 x 1/2" RD. HD. MA. SC.	4	"
110	1/4" STD. HEX. MA. SC. NUT	32	"
111	1/4" x 1/16" THK. STD. WASH.	74	"
112	#6 x 1/8" THK. STD. WASH.	4	"

NOTES-
#1 - SAND EDGES OF ALL PIECES SMOOTH.
#2 - CHAMFER ALL CORNERS AND EDGES BY LIGHT SANDING.
#3 - AFTER MACHINING AND PRIOR TO ASSEMBLING, PAINT FRAME WITH TWO COATS OF FLAT BLACK PAINT.
#4 - LAYOUT AND MACHINE ALL PLEXIGLASS WITH PROTECTIVE COVERING IN PLACE ON BOTH SIDES.
(A) #5 - AFTER MACHINING AND PRIOR TO ASSEMBLING, SAND PROJECTOR SIDE OF AUX. SCREEN TO SIMILAR GROUND GLASS LIKE SURFACE.
#6 - ASSEMBLE WITH GRADE 'A' SURFACE OF PLYWOOD FRAME TOWARD OBSERVER.

File Copy

(A) USE P-80 COLORLESS PLEXIGLASS FOR PC. 102. DELETE NOTE #5. 2/20/63 NRL

PROJECT NO.	99106-5
NAME OF UNIT	IMPROVED REAR PROJECTION SCREEN
NAME OF PIECE	REAR PROJECTION SCREEN TEST ASSEMBLY
DATE	14 FEB 1962
SCALE	1/4 SIZE (DETAILS AS NOTED)
DRAWING NO.	C-1

25X1

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